

Amendments to the Claims

Please cancel claims 347-395, 428, and 440-459 without prejudice.

This listing of claims will replace all prior versions, and listings, of claims in the above-captioned application.

Listing of Claims:

Claims 1-308 (cancelled)

309. (original) A system for detecting an analyte in a bodily fluid comprising:

a light source;

a sensor array, the sensor array comprising a supporting member comprising at least one cavity formed within the supporting member;

a particle , the particle positioned within the cavity, wherein the particle is configured to produce a signal when the particle interacts with the analyte in the bodily fluid during use, and wherein the particle comprises a receptor molecule coupled to a polymeric resin; and

a detector, the detector being configured to detect the signal produced by the interaction of the analyte with the particle during use;

wherein the light source and detector are positioned such that light passes from the light source, to the particle, and onto the detector during use.

Claims 310-459(cancelled)

- 460. (new) The system of claim 309, wherein the system comprises a plurality of particles positioned within a plurality of cavities, and wherein the system is configured to substantially simultaneously detect a plurality of analytes in the fluid.
- 461. (new) The system of claim 309, wherein the system comprises a plurality of particles positioned within the cavity.
- 462. (new) The system of claim 309, wherein the light source comprises a light emitting diode.
- 463. (new) The system of claim 309, wherein the light source comprises a red light source, a green light source and a blue light source.
- 464. (new) The system of claim 309, wherein the detector is configured to detect independently the absorbance of red light by the particle, and wherein the detector is configured to detect the absorbance of green light by the particle, and wherein the detector is configured to detect the absorbance of blue light by the particle.
- 465. (new) The system of claim 309, wherein the light source comprises a white light source.
- 466. (new) The system of claim 309, further comprising a cover layer, wherein the cover layer is removable.

- 467. (new) The system of claim 309, further comprising a cover layer positioned at a fixed distance above the supporting member at a height to substantially inhibit dislodgement of a particle in a cavity during use.
- 468. (new) The system of claim 309, wherein the cavity is configured to allow fluid to pass through the supporting member during use.
- 469. (new) The system of claim 309, wherein the cavity is configured to allow fluid to pass through the supporting member during use, and wherein a width of a bottom portion of the cavity is substantially less than a width of a top portion of the cavity, and wherein the width of the bottom portion of the cavity is substantially less than a width of the particle.
- 470. (new) The system of claim 309, further comprising channels in the supporting member, wherein the channels are configured to allow the fluid to flow through the channels into and away from the cavity.
- 471. (new) The system of claim 309, further comprises a cover layer positioned over the cavity, wherein the cover layer is configured to inhibit dislodgment of the particle during use, and wherein the cover layer is positioned such that a channel is formed between an upper surface of the supporting member and the cover layer such that the fluid passes through the channel during use.
- 472. (new) The system of claim 309, further comprising a sensing cavity formed on a bottom surface of the sensor array.
- 473. (new) The system of claim 309, wherein the supporting member comprises a plastic material.

- 474. (new) The system of claim 309, wherein the supporting member comprises a silicon wafer.
- 475. (new) The system of claim 309, wherein the supporting member comprises a dry film photoresist material.
- 476. (new) The system of claim 309, wherein the supporting member comprises a plurality of layers of a dry film photoresist material.
- 477. (new) The system of claim 309, wherein an inner surface of the cavity is coated with a reflective material.
- 478. (new) The system of claim 309, wherein the detector comprises a charge-coupled device.
- 479. (new) The system of claim 309, wherein the detector comprises a semiconductor based photodetector, and wherein the detector is coupled to the sensor array.
- 480. (new) The system of claim 309, wherein the detector comprises an ultraviolet detector.
- 481. (new) The system of claim 309, wherein the detector comprises a fluorescence detector.
- 482. (new) The system of claim 309, wherein the particle comprises a receptor molecule coupled to a polymeric resin.

483. (new) The system of claim 309, wherein the particle comprises a receptor molecule coupled to a polymeric resin, and wherein the polymeric resin comprises polystyrene-polyethylene glycol-divinyl benzene.
484. (new) The system of claim 309, wherein the particle comprises a receptor molecule coupled to a polymeric resin, and wherein the particle further comprises a first indicator and a second indicator, the first and second indicators being coupled to the receptor, wherein an interaction of the receptor with the analyte causes the first and second indicators to interact such that the signal is produced.
485. (new) The system of claim 309, wherein the particle comprises a receptor molecule coupled to a polymeric resin, and wherein the particle further comprises an indicator, wherein the indicator is associated with the receptor such that in the presence of the analyte the indicator is displaced from the receptor to produce the signal.
486. (new) The system of claim 309, further comprising a fluid delivery system coupled to the supporting member.
487. (new) The system of claim 309, further comprising a fluid delivery system coupled to the supporting member, wherein the fluid delivery system is configured to introduce samples into the sensor array.
488. (new) The system of claim 309 further comprising:
- a fluid delivery system coupled to the supporting member; and
- a filter coupled to the fluid delivery system.

- 489. (new) The system of claim 309, further comprising a filter, wherein the system is configured such that the fluid passes through a filter prior to passing over the sensor array.
- 490. (new) The system of claim 309, further comprising a reagent reservoir, wherein the system is configured such that fluid passes through a reagent reservoir prior to passing over the sensor array.
- 491. (new) The system of claim 309, wherein the particle ranges from about 0.05 microns to about 500 microns.
- 492. (new) The system of claim 309, wherein a volume of the particle changes when contacted with the fluid.
- 493. (new) The system of claim 309, wherein the signal is a spectroscopic change, and wherein the detector is configured to measure the intensity of the spectroscopic change.
- 494. (new) The system of claim 309, wherein the sensor array further comprises a vacuum chamber coupled to a conduit and the sensor array, and wherein the chamber is configured to provide a pulling force on the fluid in the sensor array.
- 495. (new) The system of claim 309, wherein the fluid is blood.
- 496. (new) The system of claim 309, wherein the particle comprises a polymeric resin, a biopolymer coupled to the polymeric resin, and wherein the biopolymer undergoes a chemical reaction in the presence of the analyte to produce a signal.

Response to Office Action Mailed April 16, 2004

A. Claims in the Case

Claims 309 and 460-513 are pending. Claims 347-395, 428 and 440-459 have been cancelled without prejudice. Claims 460- 513 have been added.

B. Election/Restriction

Applicant hereby elects the claims of Group I, namely claim 309, without traverse. Applicant reserves the right to file a divisional application at a later date capturing the subject matter recited in claims 347-395, 428, and 440-459.

C. Support for Added Claims

Applicant submits that support for newly added claims can be found in Applicant's originally filed specification and claims. Specifically, support for added claims can be found as follows:

Support for claim 460 can be found in originally filed claim 2.
Support for claim 461 can be found in originally filed claim 3.
Support for claim 462 can be found in originally filed claim 4.
Support for claim 463 can be found in originally filed claim 43.
Support for claim 464 can be found in originally filed claim 387.
Support for claim 465 can be found in originally filed claim 5.
Support for claim 466 can be found in originally filed claim 51.

Support for claim 467 can be found in originally filed claims 121 and 122.

Support for claim 468 can be found in originally filed claim 42.

Support for claim 469 can be found in originally filed claim 49.

Support for claim 470 can be found in originally filed claim 57.

Support for claim 471 can be found in originally filed claim 122.

Support for claim 472 can be found in originally filed claim 9.

Support for claim 473 can be found in originally filed claim 52.

Support for claim 474 can be found in originally filed claim 53.

Support for claim 475 can be found in originally filed claim 54.

Support for claim 476 can be found in originally filed claim 55.

Support for claim 477 can be found in originally filed claim 56.

Support for claim 478 can be found in originally filed claim 12.

Support for claim 479 can be found in originally filed claim 117.

Support for claim 480 can be found in originally filed claim 13.

Support for claim 481 can be found in originally filed claim 14.

Support for claim 482 can be found in originally filed claim 21.

Support for claim 483 can be found in originally filed claim 22.

Support for claim 484 can be found in originally filed claim 26.

Support for claim 485 can be found in originally filed claim 27.

Support for claim 486 can be found in originally filed claim 337.

Support for claim 487 can be found in originally filed claim 77.

Support for claim 488 can be found in originally filed claim 78.

Support for claim 489 can be found in originally filed claim 78.

Support for claim 490 can be found in originally filed claim 233.

Support for claim 491 can be found in originally filed claim 16.

Support for claim 492 can be found in originally filed claim 17.

Support for claim 493 can be found in originally filed claim 197.

Support for claim 494 can be found in originally filed claim 77.

Support for claim 495 can be found in originally filed claim 79.

Support for claim 496 can be found in originally filed claim 81.

C. Summary

Applicant submits that all claims are in condition for allowance. Favorable reconsideration is respectfully requested.

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A one-month extension of time is requested. A Fee Authorization for the one-month extension fee is enclosed. If any additional extension of time is necessary, Applicant hereby requests the appropriate extension of time. If any fees have been inadvertently omitted or if any fees are required, please charge those fees to Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C. Deposit Account Number 50-1505/5119-00525/EBM

Respectfully submitted,



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